National Institute of Environmental Health Sciences

Using long-term ecosystem service and biodiversity data to study the impacts and adaptation options in response to climate change: Insights from the global ILTER sites network

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Abstract:

The International Long Term Ecological Research (ILTER) network can coordinate ecological research to provide observations of the ecosystem changes, and their socio-economic impacts on human societies at different scales. In this paper we demonstrate the importance of the ILTER network in the study and monitoring of environmental changes at a global level. We give examples of how biodiversity and ecosystem service data can be used to study impacts and adaptation options in response to climate change. Analysis of the 107 recent publications from LTER networks representing 21 countries show that LTER studies are often local and heterogeneous. There are some ecosystem types, such as agricultural or coastal ecosystems that are not covered with current ILTER network. Standardized monitoring schemes and techniques should be considered for future steering of ILTER collaboration. Integrating and synthesizing the collected data should be prioritized for future cooperation, and integrated in decision-making.

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Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified